

YAC/BAC contig covering the *FRI* locus

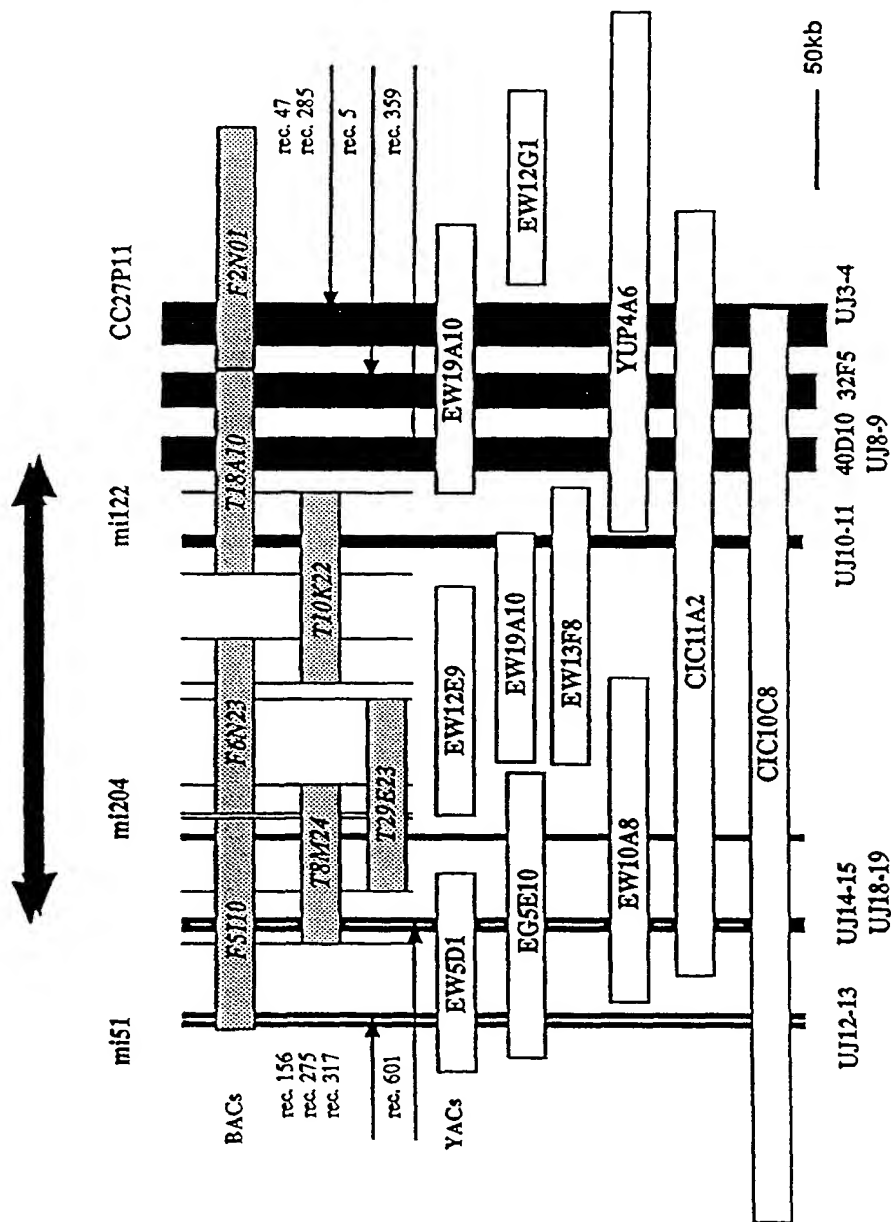
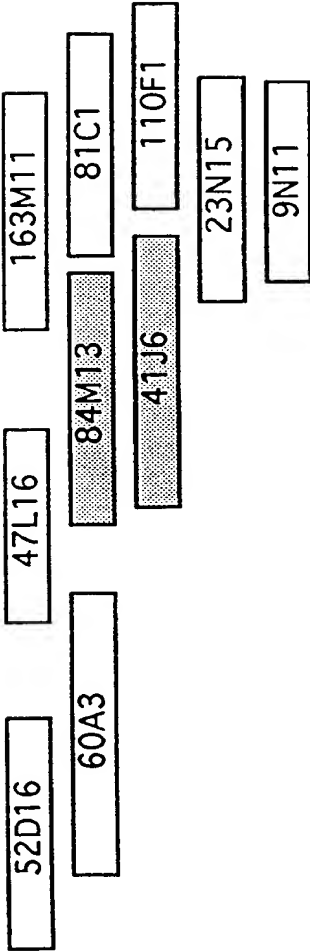


Fig 1

Cosmid contig covering *FRI*



complementing cosmid

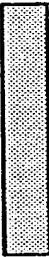


Fig 2

Subclones of 84M13 and FN mutations

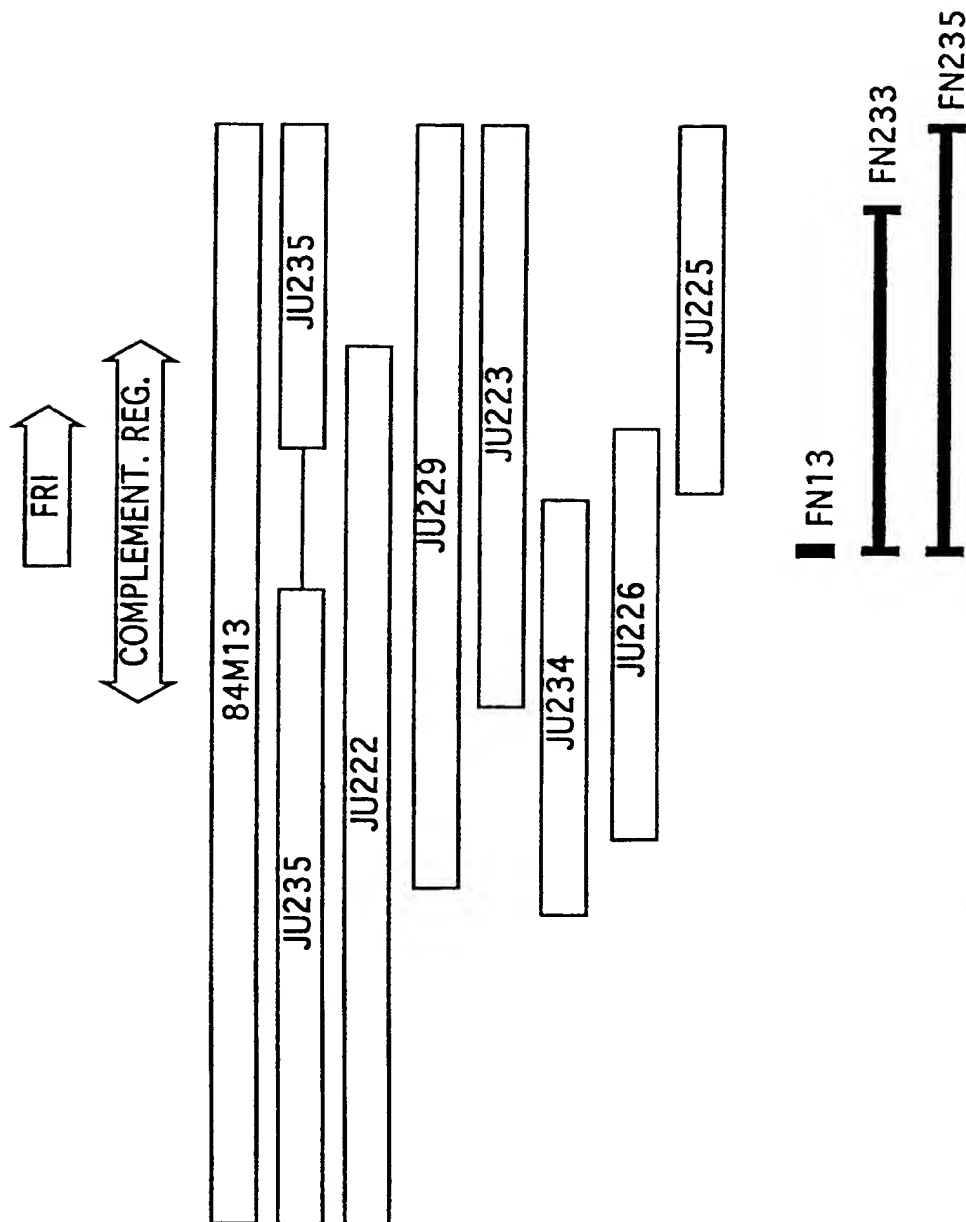


Fig 3

Fig 4

Fig 4

1101 TTCAGCTTTG AAATTGGCCA AGGAGCCAGC GAAGTTTGTA TTGGATTGTA
1151 TTGGCAAGTT TTA CT TACAA GGGCGTAGAG CATTTACTAA AGAGTCGCCT
1201 ATGAGCTCTG CGAGACAAGT TTCGCTTCTT ATACTGGAGT CTTTCTTCT
1251 AATGCCTGAT CGTGGTAAAG GGAAGGTGAA GATTGAGAGT TGGATTAAAG
1301 ATGAGGCGGA GACGGCTGCT GTTGCTTGGA GGAAAAGGTT GATGACTGAA
1351 GGAGGATTAG CTGCGGCTGA GAAAATGGAT GCAAGGGGTT TGCTTTTACT
1401 AGTTGCTTGT TTTGGTGTTT CTTCAAACCT TAGGAGTACA GATTTGCTGG
1451 ATTTGATAAG GATGAGTGGT TCGAATGAGA TTGCCGGTGC TTTGAAGCGG
1501 TCACAGTTTC TTGTCCCTAT GGTCTCAGGT ACCATATTCT GTTCTCACTC
1551 GGTGAATTTT ATTGCAAAGG TGGTTCCTTT TGTGACATC ATCGACCAAC
1601 ATCAAGTTCC ATCTTTGTTT TTCGATAAGC TTGATGGTAT AAAGTAGGAG
1651 AGCACATCAA ATATTTAGAG TGCAATGACT GATTGAGCCA AATCCTAGCT
1701 AGAAATTAAT CTGGAAAGAA CTTGGAACTC TCAACCATAG GTTTTGGTAC
1751 GAAATTGTTG CTTGTCAGAA CCAAATGATA GGCTATTGCC TTGAAATAGT
1801 GTTCTTGTG GTTCCAATA TTGGAAGTTA AAATCGTATG ACTTAGCTGT
1851 TGGATACTAA TTAAGCTTAA GCAATGCCAA CTCTAAGAAG TGGTACTTAC
1901 ACAATATTCT ATTGGTCATA GGTATAGTTG AATCAAGTAT CAAGCGTGGA
1951 ATGCATATTG AAGCTCTTGA GATGGTTTAT ACCTTTGGCA TGGAGGATAA
2001 GTTTTCAGCT GCTCTAGTTC TAACTTCATT CTAAAGATG AGCAAGGAGT
2051 CATTTGAGAG GGCAAAACGG AAAGCCAGT CACCGCTGGC ATTTGTATGA
2101 ACCCTTCCCT TGCACATTAT GTACCTTTAT GAACTCTTTA TCATCATCTG
2151 AGTCTGACCA TTGATATATT TATTTCTCAA CAGAAAGAAG CGGCTACAAA
2201 GCAGCTAGCT GTGTTATCAT CAGTTATGCA GTGTATGGAG ACTCACAAGT
2251 TAGATCCTGC GAAAGAACTA CCAGGATGGC AGATCAAAGA GCAAATTGTT
2301 AGCTTGAGAG AAGACACTCT TCAGCTCGAC AAAGAGATGG AAGAGAAAGC
2351 AAGATCTCTC AGTTTAATGG AGGAAGCCGC ACTTGCCAAG AGAATGTATA
2401 ACCAACAGAT AAAACGTCCA AGGTTGTCAC CCATGGAAAT GCCACCAGTA
2451 ACTTCTTCAT CGTATTCTCC TATCTACCGT GATAGAAGCT TTCCTAGTCA

Fig 4 (cont)

2501 AAGAGACGAT GACCAAGATG AAATATCAGC TCTTGTGAGT AGTTACCTCG
2551 GCCCGTCAAC ATCTTTTCCT CATCGCTCAA GAAGATCCCC GGAATATATG
2601 GTTCCACTTC CACATGGTGG GTTAGGAAGA AGTGTATATG CATATGAACA
2651 TCTGGCCCCA AATTCATACT CTCCAGGTCA CGGACATAGA CTTCATCGAC
2701 AGTACTCTCC GTCTTTGGTT CACGGACAGA GACATCCACT ACAGTACTCT
2751 CCTCCAATTC ATGGACAACA ACAGTTACCA TATGGTATAC AAAGGGTTTA
2801 CAGACATTCA CCATCTGAAG AAAGATATTT GGGTTTATCC AATCAAAGGT
2851 CTCCTCGCAG TAACTCATCA TTAGACCCCA AATAGGAGGA ATGTAAATTT
2901 GTAACAAAGC TTTTGTGTTT TGCTTAAGTT AGTCATTTAT TTAAGTCCCA
2951 ACAGTCTCAA AATTAAATTT AATGTTGGG GCTTAAGAAT GCAAATTTTT
3001 TTGCTCCTGT AATTGACATT TAAGATGCTA ATGTTATTGC TTCAGAGGTT
3051 TTAGTCAACC TCAGATACAT CGATATCACT ATCTAAATAG ACCTCTGGCT
3101 CTTGGTCATC TGGATTCTCT TCATCTTCTG TCTCTGTTCC TTCTTGTCT
3151 CGTTGCACTG CTCGAGCAAT TCGCGATTCC AACCTTGTGC TTACAGTTTC
3201 CCATGACACA AGCTTTTCCA TGAATGTATT TATGTCCGCC TTCTTATCTT
3251 TCTTGAGGAA GATGAATTCA CCGAAGATCC AACTTGAGCT TGACAATCAA
3301 TCAAATCCGA AACAGAAACA GAGCTTTTTG ACATCTTTGA TTTAGCAGTC
3351 TTTGATCTTG AGGAATATCA ATGAACACTA GATACACTCA CACTTGCAGG
3401 CTTTAAACTG GATTTTAAAC ATGAATAGAA GCATTGATTC CATGGAATGT
3451 GGTAAGTGAC ATAGCTGGAC TTCTTAAACA AATGTATGAA CGGGTAGGGT
3501 TCATTACAAT GTAGTTATAC AGCACTGAGA TTTATGGAAG AAAAAAGGA
3551 CACAGCTTTA GATATCTACA GAGAGACAAG AACACTAAAG ACAAGAGAAT
3601 CATAAGTTCA GGAGTTCGTT AAAATGGCTC TATTCAAATC ACACATTGGC
3651 ACAAGACCAC TAATAAGATA CCAAGTGGGA CAATCGAAAG AGAATAAGAG
3701 ATAGCATATC AGAGAGAGAG AGAGATTTTT TGAGGAGGGA GAAGTTCGCC
3751 GGAGGCTTCT G

Fig 4 (cont)

1 CATGTCGTAA TCATGCAACC TAACTATGTT TTCATTAATC AAATACAAAG
51 AATAAAGAGA AAAGTGCCTA GATTCAATTA TTTGGCATAG ACTCAAAAGA
101 GTGTATATAT ATCTGACTTT TATTAAATTA TTAAACACAA ATACATATTT
151 TCATAAGCAA AACTATAAAA GCCCTAAACA TATAATGATT ACCTCAAAGG
201 AAAAAGTCGT TTTCTCCTAC TTAAAAGATA GGTTACTTCC TAATTAATAT
251 ATAATTTATG TGAACCTCAC AATATACAGT TCAATAAAAT TTGGTAATTT
301 GACCGATTTA AGGAGAGTGG AAATTAGGGC TTCTGCAATC TTTTTTCTTC
351 GCCGCAATCT CATGTCCAAT TATCCACCGA CGGTGGCGGC GCAACCCACA
401 ACGACGGCGA ATCCACTGCT GCAGCGACAT CAATCTGAAC AGCGACGAAG
451 AGAATTACCG AAGATTGTCTG AAACAGAGTC TACAAGTATG GACATTACGA
501 TCGGTCAATC TAAGCAGCCT CAATTTTTGA AATCCATAGA CGAATTAGCT
551 GCGTTTTTCAG TTGCAGTGGG AACATTCAAA CGCCAATTCTG ATGATCTTCA
601 GAAGCACATC GAGTCAATCG AAAACGCAAT TGATTCCAAA CTCGAGAGTA
651 ACGGCGTTGT CCTCGCCGCG CGGAACAATA ATTTCCATCA GCCGATGTGA
701 TCGCCTCCGC GGAACAATGT ATCTGTAGAA ACCACCGTCA CTGTGAGCCA
751 ACCGTCTCAG GAGATTGTAC CGGAGACGTC GAATAAACCG GAGGGGGGAC
801 GTATGTGTGA GTTGATGTGT AGCAAAGGTC TCGGTAAATA CATATACGCG
851 AATATCTCTG ATCAAGCTAA GTTAATGGAA GAGATTCCTT CAGCTTTGAA
901 ATTGGCCAAG GAGCCAGCGA AGTTTGTATT GGATTGTATT GGCAAGTTTT
951 ACTTACAAGG GCGTAGAGCA TTTACTAAAG AGTCGCCTAT GAGCTCTGCG
1001 AGACAAGTTT CGCTTCTTAT ACTGGAGTCT TTTCTTCTAA TGCCTGATCG
1051 TGGTAAAGGG AAGGTGAAGA TTGAGAGTTG GATTAAAGAT GAGGCGGAGA

Fig 5

Sequence

1101 CGGCTGCTGT TGCTTGGAGG AAAAGGTTGA TGA CTGAAGG AGGATTAGCT
1151 GCGGCTGAGA AAATGGATGC AAGGGGTTTG CTTTTACTAG TTGCTTGTTT
1201 TGGTGTTCCT TCAAACCTTA GGAGTACAGA TTTGCTGGAT TTGATAAGGA
1251 TGAGTG GTTC GAATGAGATT GCCGGTGCTT TGAAGCGGTC ACAGTTTCTT
1301 GTCCCTATGG TCTCAGGTAT AGTTGAATCA AGTATCAAGC GTGGAATGCA
1351 TATTGAAGCT CTTGAGATGG TTTATACCTT TGGCATGGAG GATAAGTTTT
1401 CAGCTGCTCT AGTTCTAACT TCATTCTTAA AGATGAGCAA GGAGTCATTT
1451 GAGAGGGCAA AACGGAAAGC CCAGTCACCG CTGGCATTTA AAGAAGCGGC
1501 TACAAAGCAG CTAGCTGTGT TATCATCAGT TATGCA GTGT ATGGAGACTC
1551 ACAAGTTAGA TCCTGCGAAA GAACTACCAG GATGGCAGAT CAAAGAGCAA
1601 ATTGTTAGCT TGGAGAAAGA CACTCTTCAG CTCGACAAAG AGATGGAAGA
1651 GAAAGCAAGA TCTCTCAGTT TAATGGAGGA AGCCGCACTT GCCAAGAGAA
1701 TGTATAACCA ACAGATAAAA CGTCCAAGGT TGTCACCCAT GGAAATGCCA
1751 CCAGTAACTT CTTCATCGTA TTCTCCTATC TACCGTGATA GAAGCTTTCC
1801 TAGTCAAAGA GACGATGACC AAGATGAAAT ATCAGCTCTT GTGAGTAGTT
1851 ACCTCGGCCC GTCAACATCT TTTCTCATC GCTCAAGAAG ATCCCCGGAA
1901 TATATGGTTC CACTTCCACA TGGTGGGTTA GGAAGAAGTG TATATGCATA
1951 TGAACATCTG GCCCCAAATT CATACTCTCC AGGTCACGGA CATAGACTTC
2001 ATCGACAGTA CTCTCCGTCT TTGGTTCACG GACAGAGACA TCCACTACAG
2051 TACTCTCCTC CAATTCATGG ACAACAACAG TTACCATATG GTATACAAAG
2101 GGT TTACAGA CATTCAACAT CTGAAGAAAG ATATTTGGGT TTATCCAATC
2151 AAAGGTCTCC TCGCAGTAAC TCATCATTAG ACCCCAAATA GGAGGAATGT
2201 AAATTTGTAA CAAAGCTTTT TGTTTTTGCT TAAGTTAGTC ATTTATTTAA
2251 CTCCCAA

Fig 5 (contd)

1 MSNYPPTVAA QPTTTANPLL QRHQSEQRRR ELPKIVETES TSMDITIGQS
51 KQPQFLKSID ELAAFSVAVE TFKRQFDDLQ KHIESIENAI DSKLESNGVV
101 LAARNNNFHQ PMLSPPRNNV SVETTVTVSQ PSQEIVPETS NKPEGGRMCE
151 LMCSKGLRKY IYANISDQAK LMEEIPSALK LAKEPAKFVL DCIGKFYLQG
201 RRAFTKESPM SSARQVSLLI LESFLLMPDR GKGKVKIESW IKDEAETAAV
251 AWRKRLMTEG GLAAAEKMDA RGLLLLACF GVPSNFRSTD LLDLIRMSG
301 NEIAGALKRS QFLVPMVSGI VESSIKRGMH IEALEMVYTF GMEDKFSAAL
351 VLTSFLKMSK ESFERAKRKA QSPLAFKEA TKQLAVLSSV MQCMETHKLD
401 PAKELPGWQI KEQIVSLEKD TLQLDKEMEE KARSLSLMEE AALAKRMYNQ
451 QIKRPRLSPM EMPFVTSSSY SPIYRDRSFP SQRDDDQDEI SALVSSYLGP
501 STSFPHRARR SPEYMVPLPH GGLGRSVYAY EHLAPNSYSP GHGHRHRQY
551 SPSLVHGQRH PLQYSPPIHG QQQLPYGIQR VYRHSPSEER YLGLSNQRSP
601 RSNSSLDPK

Fig 6

TABLE 3

33 ecotypes grouped after FT and PCR marker genotype
 Flowering time scored as early/late or days to flowering

Ecotype	FT	Promoter	BsmFI(GRM)	+16 nt
Li-5	Early	+	-	-
Col	Early	+	-	-
En	Early	+	-	-
Ws	Early	+	-	-
Nd	Early	+	-	-
MT-0	54	+	-	-
Köln	54	+	-	-
Cvi	Early	+	+	+
Wil	Early	+	+	+
S96	Early	+	+	+
Est-0	Early	+	Het	Het
Shakhdara	47	+	+	+
KZ-9	64	+	+	+
PU-2-8	85	+	+	+
Ler	Early	-	+	+
TSU-0	57	-	+	+
Dijon	Intermed?	-	+	+
Gr	Intermed.	-	+	+
St	Late	+	+	+
Sf-2	Late	+	+	+
Te	Late	+	+	+
Ko	Late	+	+	+
Öst	Late	?	?	+
Can	Late	+	+	+
Vimmerby	137	+	+	+
Lisse	140	+	+	+
PU-2-3	153	+	+	+
GOT-32	179	+	+	+
Lund	180	+	+	+
TAMM-46	250	+	+	+
NC-6	188	+	-	+
DEM-4	223	+	-	+
Algutsum	251	+	-	+

Fig 7